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## 1906 Earthquake: Fault in Motion

#### Overview

This activity allows students to investigate the movement of earthquake fault lines from a kinesthetic perspective. Students will make inferences after examining the photos from the 1906 earthquake.

#### Processes/Skills

- Observing
- Examining
- Comparing
- Classifying
- Describing
- Analyzing
- Cooperating

Recommended For: Grade K-3

Time Required: 40 minutes

### **Materials Required:**

- Earthquakes by Ellen J. Prager
- If You Lived at the Time of the Great San Francisco Earthquake by Ellen Levine
- rope at least 20 m long

### **Connecting to the Standards**

Language Arts

- o R.L. 3. Describe how characters in a story respond to major events and challenges.
- o R.I. 3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
- o R.I. 6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
- o S.L. 1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
- o S.L. 2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
- o S.L. 3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
- Science
- o 2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly.
- o K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

## **Activity Objectives**

- The students will investigate earthquake waves from a kinesthetic perspective.
- The students will make inferences about earthquakes and apply an accepted scientific scale to them.
- The students will identify the changes that occur as a result of disasters.

### Main Activity, Step-by-Step Procedure

- 1. Show students the photographs of damages caused by the 1906 earthquake and discuss what force of nature might cause such destruction.
- 2. Read If You Lived at the Time of the Great San Francisco Earthquake aloud and have the students focus on the pictures of the earthquakes.

- 3. Explain the different types of faults and their movements. Explain to the students that they will simulate the movement of rocks along the fault line similar to what happened during the 1906 earthquake.
- 4. Divide the class into two groups and have them form a single line to represent a block of rock.
- 5. Place the rope in a straight line between the lines of the two groups.
- 6. Have the students in each line stand shoulder to shoulder facing their classmates across the fault. The students can stretch their hands outward in front of them touching their peer's palms across the fault. This represents the ground before the earthquake.
- 7. The students shout "earthquake" and release their energy by moving and when the two "blocks" slide past each other they create an earthquake. The students can make two motions simultaneously by jumping up and down while each line moves to the left.
- 8. Guide the students in slow motion before fully implementing this activity.
- 9. After this activity, discuss the key points: students slide past each other along a fault line (rope) and as the blocks move they release energy.

#### **Discussion Questions**

- 1. Why did you end up in a different place from where you started?
- 2. What happened to the fence in the picture? How did the fence move?
- 3. How does or did this disaster affect the lives of the people?

### Assessment

1. The teacher will observe the students during the earthquake fault activity and ask questions and discuss what is happening in the activity step by step.

#### Resources

2006. The Great Quake of 1906. Science & Children. 44: 2

U.S. Geological Survey: The Great 1906 San Francisco Earthquake

http://earthquake.usgs.gov/regional/nca/1906/18april/index.php.

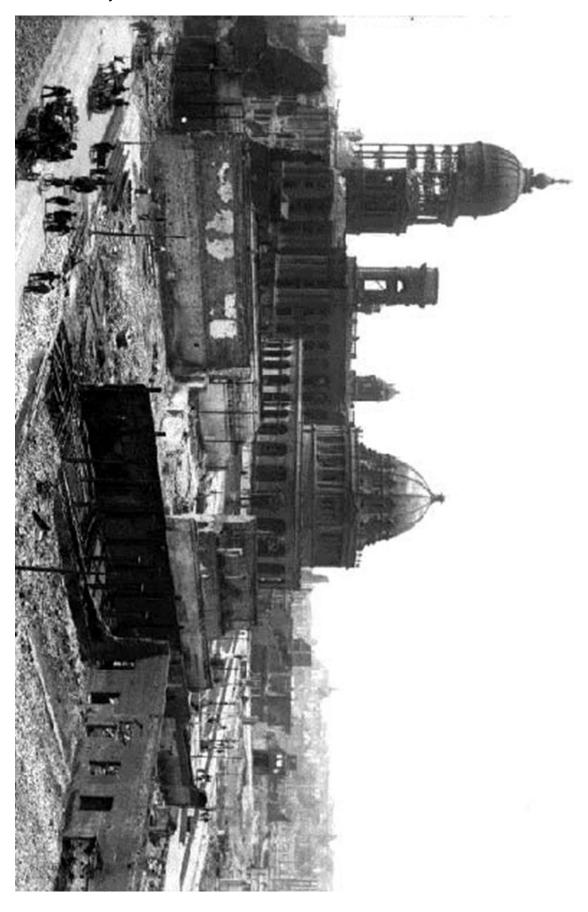
The Virtual Museum of the City of San Francisco: The Great 1906 Earthquake and Fire

http://www.sfmuseum.org/1906/06.html

# Panorama of destroyed city



San Francisco City Hall and Hall of Records



Destruction around Union Square



# Wreckage of the Palace Hotel

